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Porcelain, Pottery & Glass.

THE FIRING ARTS.

PORCELAIN, pottery and glass have been aptly described as "The Firing Arts," because the materials of which the many precious objects embraced under these names have been vitrified in the furnace until each object has become a piece of vitrified rock. The vitrification of any given clay depends upon the substance itself and the degree of heat to which it is subjected. The more perfect the vitrification the more precious will be the

object. If we take a piece of glass, a piece of rock, a crystal and a diamond and place them side by side we find the diamond gives the most pleasure. This is because it reflects more luminous rays than rock, crystal or glass, and it does so because it is more compact, more dense, more homogeneous; because it has been transmuted at a higher temperature. Accordingly, the higher the temperature to which the piece of porcelain has been subjected the more perfect will be its vitrification, and the nearer will be its aspect to that of precious stones. It will be quite possible to compare all the different porcelains of the world with respect to their vitrification; but such a category is not desirable, because the value of porcelain depends also to a great extent upon the country in which it is made, its history and traditional associations, the originality of its form and decoration, all of which are sources of quality and preciousness that are part of the substance itself.

In beginning a new department of our magazine under the heading of "Pottery, Porcelain and Glass" it is not our intention to describe at length the history of these beautiful arts, which has been told to the world over and over again with much richness of detail in books specially referring thereto; but we cannot avoid remarking that it is to Chinese porcelain that European and the Eastern ceramic arts are due. According to the legends, Chinese pottery goes as far back as 2960 B. C., and the manufacture of porcelain from kaolin as far back as 200 B. C. Chinese porcelain at an early date found its way to Japan on the one hand and through Persia to Europe on the other. The most marked advances in the way of Chinese porcelain were made in the fifteenth century. Since then there has been a steadily progressive improvement. The infinite variety of form in the Chinese vases, their delicacy, elegance and highly artistic value are well known. Art porcelains, colored films, decorations under the film, work with uncarved designs are among the incomparable wonders produced by the Chinese. Their masterpieces of skill and coloring are seen in the porcelains with polychromatic combinations, in which appear human figures, garden scenes, peonies, hawthorn, birds, butterflies, bats, dragons and monsters of all sorts, scrolls, conventional foliage and diapers. These pieces are prized particularly for their tones of color. These colors are both gentle and powerful, and display the most brilliant of imaginable hues. There is the gorgeous *sang de boeuf* and

there are the splendid coral reds, and some with beautiful tints of rose due to the chloride of gold. There is a whole family of green porcelains, including apple and olive green, the most beautiful tones of yellow, and splendid tones of mirror black and ivory white, and others of a plum and peach color. There are light violets, strange tones of cobalt, turquoise, ultramarine and lavender, with imitations of jasper, chalcedony and marble. Chinese art is seen at its highest in these wonderful productions which impress one with the art of antiquity, calm splendor, the glamour of an elder world and an alien civilization, and of life at once ideal and immutable. They are the concentrated poetry of a race and of generations of culture, and one of the finest of the decorative arts.

A DESIGN FOR A VASE OR JARDINIÈRE.

By E. T. REEVES.

DESIGN OF POPPIES.



THE design on opposite page is for a vase, jardinière, or any round surface, or may be adapted to a tray or plate by changing the arrangement of the raised paste work.

Begin by making a careful drawing of the design. It will be easier to draw and paint the flowers and background first, and when dry draw the paste design. The paste can be put over the color for the first firing.

The centers of all the flowers are a pale green, the stamens yellow. The color of the petals toward the center becomes very pale, either white, purplish, or yellowish. Paint *broadly* for the first firing, beginning at the outside edge of the petals, working toward the center, changing the color as you go. Where the masses of stamens show paint yellow, but where the petals show through the stamens paint as if they were not there. Do not try to get too much detail for the first firing. After the work is dry, with a fine brush and some taking-out mixture draw the stamens which have been left out, and after it has stood for a minute or two wipe deftly off with a small wad of cotton, leaving the white china. This can be tinted with yellow. It is a much simpler and easier way than to try and paint around every little stamen. The work must, however, be thoroughly dry, or it will wipe off where you don't want it to. A little practice will make one skillful.

Poppies are of such various colorings that one may paint them almost any color and have them true to nature. In the originals of this study two were scarlet, one pink and one a dark purplish maroon.

The two lower poppies are scarlet. Use carnation Nos. 1 and 2, red brown and yellow brown, dark green, apple green, silver yellow and brown green. Give the local color of the upper petals with carnation No. 1, and the under with No. 2, and strengthen in the second firing with red brown. In the shadows add some yellow brown. The shadows under the stamens have a slightly purplish tone. Centers are pale green or apple green and silver yellow marked with brown green. Paint the gray tones over the red with a paint wash of dark green, being careful not to get it too dark, as it is a strong color.

Lay in the center flower with carmine for the first firing, using apple green to make grays. The deeper color may be painted in the second firing with carnation No. 2. Be careful not to get the carmine too heavy where the carnation is to go.

The dark poppy is painted for the first firing with ruby purple, the outside lighter petals made quite gray; second firing shade with red brown. Center is brown green and dark green; stamens, ruby purple and neutral green; small petals in center, grayish purple of ruby purple and neutral gray. The poppy showing the back is pink, like the center one. Stems and buds are pale green, buds blue green, stems yellow green. Shade stems with brown green, buds with same and a little dark green. Leaves, bluish green, dark parts warm and yellowish. Background around flowers, delicate grays, to harmonize with painting. As it runs behind the paste border strong color may be used in delicate washes. When thoroughly dry lay paste, and fire. Be sure and paint broadly for the first firing, getting a harmony of light and shade and color, and the finishing detail will be easy for the second firing.

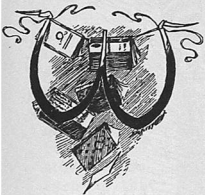
—how long, five months?—and the firer has probably been as many years at his work as you have months. Now do you not believe that he understands his part of the business much better than you do yours? Barring actual breakage in handling, which is, of course, the result of accident—only if it happens to our pieces we are apt to believe it from gross carelessness—there are but few ways in which the firer is at fault. He may fire too long or too little—in the latter case he will, if conscientious, re-fire your article free of charge—but neither of these contingencies is likely to happen to one who understands his business. He knows the necessary degree of heat to develop the colors and render them fast, and also the length of time to attain this high temperature. Time, therefore, added to his experience, guided by his sight, teaches him how long to fire, and exactly when to draw off the fire. There are two



DESIGN FOR A VASE OR JARDINIÈRE. BY E. T. REEVES.

WHY CHINA IS SPOILED IN THE FIRING.

BY MRS. N. R. MONACHESI.



"HY is my china so often spoiled in the firing?" is a common wail of woe among the amateur china painters. "I always take it to well recommended firms, and yet it is returned to me frequently entirely spoiled, sometimes ruined beyond redemption. Sometimes there is no glaze, sometimes the colors are quite changed in hue, and sometimes wipes entirely off. Then again my lovely pansies blistered and somewhat resembled a

severe case of small-pox, and the gold on the edge rubbed all off except a few spots, and my raised paste work has flattened out as though an elephant had stepped on it. It is very discouraging. It must be the fault of the firer, for when I take it to be fired it looks beautifully and I am quite proud of it, yet it is invariably spoiled when I get it again. It is too bad! He must do it on purpose! Or else my china is hoodooed!"

Did it never occur to you, my dear, disappointed, discouraged decorator, that the fault might be your own, instead of the poor firer's? No? It is so easy to blame some one else, to shift the responsibilities of our own shortcomings upon other shoulders. Let me see, you have been painting on china now for

other accidents liable to occur that are unavoidable. An imperfection in the body of the ware, like a grain of sand, will sometimes free itself to gain more room for expansion, and the result is sometimes quite an explosion and a possible breakage of everything in the kiln. Sometimes the piece will simply split in two or three pieces. This may be done noiselessly, but the crash follows when it lets the other pieces down—for china is piled upon each other, separated and supported only by stilts. If the bottom plate breaks, it will naturally let the whole lot on top down. Another thing that occasionally happens, if certain sensitive colors are in too close proximity to liquid bright gold, the fumes from which will spoil these colors. The firer usually takes care and not bring together two things liable to affect each other, but sometimes even with care the fumes from one will affect the other, should the ventilation not be perfect. There is but one other thing the firer can do to spoil the china, and that is either to close the kiln too soon and heat it up too rapidly. All china sweats at the first contact with heat, and this must find vent in evaporation out of the kiln. Otherwise it falls back, and this moisture settling on the surface of the china will spoil the glaze. If once gone, from this or any other cause, it is irremediable.

In gas kilns, an excess of gas will discolor the china. Sometimes another firing will restore the color to its natural beauty. But as a rule accidents from this cause are considered a very sad disaster, as ruination is usually the result. But this seldom happens if the firer has control of the gas. The amount the